MCF 3M
Test Review Ch 3&4

Opener

Solve for the zeros of the following functions

i) $f(x) = -x^2 + 3x + 10$

ii) $f(x) = 2x^2 - 7x - 18$

Mar 29-8:18 AM

MCF 3M
Test Review Ch 3&4

Opener

Solve for the zeros of the following functions

i) $f(x) = -x^2 + 3x + 10$

$f(x) = -(x^2 - 3x - 10)$

$f(x) = -(x^2 + 2x - 5x - 10)$

$f(x) = -(x(x+2) - 5(x+2))$

$f(x) = -(x+2)(x-5)$

-2 and $+5$

A | M
-3 | -10
-5 $+2$

ii) $f(x) = 2x^2 - 7x - 18$

$= 2x^2 + 3x - 12x - 18$

$= x(2x+3) - 6(2x+3)$

$= (2x+3)(x-6)$

$-\frac{3}{2}$ $+6$

A | M
-9 | -36
-12 $+3$

$2x+3 = 0$
$2x = -3$
$\frac{2x}{2} = \frac{-3}{2}$
$x = -3/2$

Mar 29-8:18 AM

State the number of zeros in the following functions

i) $f(x) = -2(x+3)^2 - 6$

ii) $f(x) = (x+3)(x-3)$

iii) $f(x) = 25x^2 + 40x + 16$

Mar 29-8:25 AM

State the number of zeros in the following functions

i) $f(x) = -2(x+3)^2 - 6$

0 zeros b/c vertex below x axis and points down

ii) $f(x) = (x+3)(x-3)$ = 2 zeros

iii) $f(x) = 25x^2 + 40x + 16$ = 1 zero

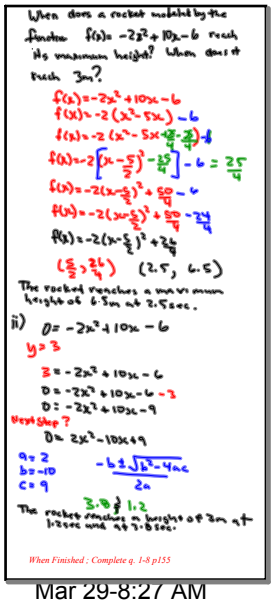
$(5x+4)^2$ perfect square

Mar 29-8:25 AM

When does a rocket modelled by the function $f(x) = -2x^2 + 10x - 6$ reach its maximum height? When does it reach 3m?

When Finished ; Complete q. 1-8 p155

Mar 29-8:27 AM



Mar 29-8:27 AM

$x^2 - 14x + 49$

$(x-7)^2$

Complete the square

$f(x) = x^2 - x - 3$ $\left(\frac{b}{2}\right)^2$

$f(x) = x^2 - x + \frac{1}{4} - \frac{1}{4} - 3$ $\left(\frac{-1}{2}\right)^2$ $\left(\frac{1}{2}\right)\left(\frac{1}{2}\right)$

$f(x) = \left(x - \frac{1}{2}\right)^2 - \frac{1}{4} - 3$ $\frac{1}{4}$

$f(x) = \left(x - \frac{1}{2}\right)^2 - \frac{1}{4} - \frac{12}{4}$

$f(x) = \left(x - \frac{1}{2}\right)^2 - \frac{13}{4}$

Mar 29-8:30 AM

$f(x) = 2x^2 + 3x + 1$

$f(x) = 2\left(x^2 + \frac{3}{2}x\right) + 1$

$f(x) = 2\left(x^2 + \frac{3}{2}x + \frac{9}{16} - \frac{9}{16}\right) + 1$ $\frac{3}{2} \div \frac{2}{1}$

$f(x) = \frac{2}{1}\left[\left(x + \frac{3}{4}\right)^2 - \frac{9}{16}\right] + 1$ $\frac{3}{2} \times \frac{1}{2}$

$= \left(\frac{3}{4}\right)^2 = \frac{9}{16}$

$f(x) = 2\left(x + \frac{3}{4}\right)^2 - \frac{18}{16} + 1$

$f(x) = 2\left(x + \frac{3}{4}\right)^2 - \frac{18}{16} + \frac{16}{16}$

$f(x) = 2\left(x + \frac{3}{4}\right)^2 - \frac{2}{16}$ $\left(-\frac{3}{4}, \frac{-2}{16}\right)$

$f(x) = a(x-h)^2 + k$

$f(x) = 2\left(x + \frac{3}{4}\right)^2 - \frac{1}{8}$

Mar 29-10:48 AM

$f(x) = \frac{1}{2}x^2 + 5x - 3$ $\left(\frac{10}{2}\right) = (5)^2 = 25$

$f(x) = \frac{1}{2}(x^2 + 10x) - 3$

$5 \div \frac{1}{2}$ $f(x) = \frac{1}{2}(x^2 + 10x + 25 - 25) - 3$

$5 \times \frac{2}{1}$ $f(x) = \frac{1}{2}\left[(x+5)^2 - 25\right] - 3$

$= 10$ $f(x) = \frac{1}{2}(x+5)^2 - \frac{25}{2} - 3$

$f(x) = \frac{1}{2}(x+5)^2 - \frac{25}{2} - \frac{6}{2}$

$f(x) = \frac{1}{2}(x+5)^2 - \frac{31}{2}$

Mar 29-10:53 AM

$C(t) = 0.2t^2 - 10t + 650$

$0.2(t^2 - 50t) + 650$

$0.2(t^2 - 50t + 625 - 625) + 650$ $\left(\frac{50}{2}\right)^2$

$0.2\left[(t-25)^2 - 625\right] + 650$ $(25)^2 = 625$

$0.2(t-25)^2 - 125 + 650$

$0.2(t-25)^2 + 525$

$f(x) = a(x-h)^2 + k$

$(25, 525)$

At 25 cars the cost to make each car is minimized to $525.

Nov 1-7:33 AM